II

ANTENATAL TREATMENT OF VENEREAL DISEASE—SYPHILIS

Discussion

THE Discussion was opened by Colonel L. W. HARRISON, who spoke as follows:—

I propose to confine my remarks mainly to the question whether or not it is worth while making a bigger effort than at present to reduce the incidence of congenital syphilis by antenatal treatment of expectant mothers, and to the lines on which such efforts should be directed.

I do not think that anyone can doubt that by sufficient treatment of the mother during pregnancy the infant can be protected against infection in almost every case.

The figures in the literature relating to success in this respect vary somewhat, doubtless depending on the amount of treatment administered, but there is overwhelming evidence that, if it were possible to put every syphilitic pregnant woman under treatment, congenital syphilis would almost vanish. I think the majority opinion is that, whatever the amount of treatment administered before the pregnancy, the safest course is to treat the expectant mother during it. Possibly such a stringent rule may be modified in future by withholding treatment in those cases where it is believed that, by treatment in the past, the disease has been eradicated, but the tests substantiating such a belief would have to be very strict, and I doubt if any of us is in a position at present to take the responsibility of saying to an expectant mother with a history of syphilis that she need not be treated during her pregnancy. Assuming that we could treat every such woman, what should we gain?

We should, of course, first of all wipe out a large loss of infant life in the form of miscarriages, stillbirths and deaths during the first year of life.

I would estimate stillbirths due to syphilis in England and Wales at approximately 4,000 a year, basing this

figure on Eardley Holland's calculation that 16 per cent. of stillbirths are due to syphilis and on the average of 25,000 stillbirths per annum in the years 1920 to 1926. Deaths from syphilis in the first year of life have never, as far as I know, been calculated with any great accuracy, but I do not think I should be accused of exaggeration if I were to say they are not fewer than stillbirths due to the same cause.

But the toll of infant life might perhaps fail to excite a warm enthusiasm for its prevention, at any rate amongst those who think the population too large already, though in that toll it must be admitted there is a lot of individual misery, not to mention economic loss from illness and death in families.

I admit that I am mostly interested in the prevention of disability from congenital syphilis in children, adolescents and adults. It is impossible to obtain anything approaching an accurate idea of the number of people in the country who are crippled in one way or another by the effects of congenital syphilis, but we have one fact which shows that the number cannot be small. The Departmental Committee on the Causes and Prevention of Blindness, after examining various sets of statistics, concluded that " it would be correct to estimate that syphilis is the direct cause of not less than from 10 to 15 per cent. of the blindness at present existing in this country." They went on to say that " it is to be remembered that many other cases of blindness are due to degenerative changes consequent on vascular disease of possibly syphilitic origin which cannot be accounted for in the statistics." I think that most people will agree that a substantial proportion of the syphilis causing blindness is congenital, and we need then only look at the number of blind persons on the Register of the Blind in England and Wales to realise what a lot of trouble we should prevent by getting rid of congenital syphilis. The number of blind persons on the register in England and Wales on March 31st, 1927, was 46,822, and " blind " is defined as " too blind to perform work for which eyesight is essential."

The numbers I have given do not include the partially blind, and they give only a faint idea of the economic loss from interstitial keratitis in children and adolescents.

Assuming that it was possible to place under treatment

every pregnant syphilitic woman, how many should we have to treat each year? I have studied many sets of figures to try to arrive at some sort of an estimate of the percentage of pregnant women who are syphilitic, but, like others, find it impossible to obtain a figure on which I feel I can rely. Cruickshank, in the 1,000 pregnant women's blood which he examined, found 9·04 per cent. positive. Fildes, in 386 women of what one would judge to be the same social class, found 5·1 per cent.; and Professor Pearson concluded from his figures that one could estimate that in the population examined by Fildes 3 to 7 per cent. of the females had syphilis. The social classes examined by these two workers were most probably IV. and V. in the Registrar-General's classification, *i.e.*, unskilled workers and intermediate between these and skilled workers.

After deducting the births to workers in the same social classes who are employed in agricultural occupations, I find that the balance of social classes IV. and V. are responsible for approximately one-third of the approximately 700,000 births a year, and if we reckon 5 per cent., or one-twentieth, of this third as syphilitic, we get approximately 11,650 as the figure representing the syphilitic pregnancies in the two lowest social classes. If, then, we credit the three highest social classes, I., II. and III., and all workers employed in agricultural occupations with only 1 per cent. of syphilis, we get in the remaining pregnancies one-hundredth of two-thirds of 700,000, or a further 4,666, making a total of over 16,000 pregnant women a year to be treated as syphilitic. I think that this must be regarded as well below the mark, because a study of such tables as Bishop Harman's would lead us to expect that it would take far more than 16,000 syphilitic pregnancies to produce 4,000 syphilitic still-births.

I fear that nothing approaching the 16,000 is under treatment at the centres, and the question is, how we could increase the proportion of the infected brought under treatment. The answer rests, I think, with those who have the responsibility of advising expectant mothers. I fear that the provision of V.D. treatment centres is not the whole solution, because a large proportion of married women will not go to the centres, however nicely equipped, and if congenital syphilis is to be

stamped out, there must be a much greater amount of treatment carried out by those who discover the syphilis in the first instance. They are the advisors in whom the women have confidence; the V.D. specialists are unknown to these women, and the centres are, in the eyes of many of them, places to be avoided as resorts of the dissolute.

We, for our part, can only present those who could carry out the necessary treatment with the facts, and leave it to their consciences to decide if they will or will not do something to prevent what the lowest estimates, such as I have given you, show to be a terribly large evil.

Dr. A. C. ROXBURGH gave some figures from a small clinic run by the Battersea Borough Council, to which he had been Consultant for some years.

During the years 1924–5–6–7, Wassermann tests had been performed on the blood of 2,502 pregnant women attending the ordinary antenatal clinics. The percentage of positive results had been :—

3·5 in 1924
2·1 in 1925
1·5 in 1926
1·7 in 1927

The average being 2·2 per cent., which was much lower than the figure of 10 per cent. often given for urban populations.

In the years 1922–27 they had treated during pregnancy 53 syphilitic women, only 3 of whom showed outward evidence of syphilis. In other words, the diagnosis had to be made on the result of the Wassermann reaction. There were born 37 healthy babies with Neg. W.R., 12 apparently healthy, whom the mothers would not bring back for Wassermann test, 3 with positive W.R., and 1 stillborn due to prolonged labour in an elderly primipara, child not syphilitic.

In 1926, 9 syphilitic mothers were treated and gave birth to 9 healthy children, of whom 6 were known to have Neg. W.R.; the other 3 had not been tested. In contrast, the 25 previous untreated pregnancies in these 9 women had resulted in 7 miscarriages, 2 stillbirths, 5 children already dead, and only 11 still living in 1926.

His treatment usually consisted in N.A.B. injections weekly for eight weeks, then fortnightly until delivery, with mercury by mouth throughout.

Dr. T. ANWYL-DAVIES said he had listened with great interest and profit to the openers of the discussion; he knew it meant much hard work to prepare such papers.

Colonel Harrison had asked him to obtain the figures relating to some of the pregnant cases treated at the St. Thomas's clinic. The cases of 300 mothers were taken, and the letters picked out in a haphazard way. The total number of pregnancies they had had before they started treatment was 739, and there were unhealthy results in over 50 per cent. These consisted of :—

Cases of congenital syphilis.	48
Stillbirths.	119
Deaths	134
Miscarriages	127
Macerated fœtus	9
Healthy children	302
Total	739

Those 300 mothers were given treatment. After it started, their total number of pregnancies was 305. The unhealthy results, irrespective of the amount of treatment received by the mother, were just over 9 per cent. These pregnancies were :—

Cases of congenital syphilis.	10
Stillbirths.	4
Deaths	10
Miscarriages	2
Macerated fœtus	2
Healthy children	277
Total	305

Analysis of the case-sheets showed very markedly how even one course of treatment made a great difference to the severity of the disease in the infant. The amount of treatment received by the 305 pregnancies when investigated showed that 241 had over one course (ten arsenical injections with either bismuth or mercury) and only

approximately 3·75 *per cent. were unhealthy*. The figures were :—

Cases of congenital syphilis.	2
Stillbirths.	1
Deaths	4
Macerated fœtus	2
Healthy children	232
Total	241

The remaining sixty-four received less than one course of treatment, and of these approximately 30 per cent. were unhealthy :—

Cases of congenital syphilis.	8
Stillbirths.	3
Deaths	6
Miscarriages	2
Healthy children	45
Total.	64

Thus even one course of treatment seemed to have a large beneficial effect on the babe.

The age of infection in the mother did not seem such an important factor as one thought. In one death the infection was as recent as three months, while in another severe case ending fatally, the infection was fifteen years before.

The lines of treatment at St. Thomas's Hospital were :—

(1) To begin treatment as early as possible in the pregnancy.

(2) To give as much treatment to the mother as possible before and right up to the time of delivery, compatible with her safety.

(3) To continue treatment of the mother and babe as soon as possible after delivery, generally at about the end of the first week.

(4) To give at least one course of injections during every subsequent pregnancy.

The reason for the last-named was that once a woman had become syphilitic she was liable at every subsequent pregnancy to give birth to a syphilitic infant.

At one time it was the practice to stop treatment six

or eight weeks before term, for fear of post-partum hæmorrhage. That, however, he thought was a myth, because at St. Thomas's, where they had their own venereal lying-in wards, there had not been a single case of post-partum hæmorrhage in seven or eight years. He admitted to publishing a paper showing that arsenic has a definite anti-coagulating effect on blood, but he also stated that this was so slight that it would not interfere with any surgical treatment.

Miss D. C. LOGAN said that several years ago she saw a girl, aged twenty-six, who came to the South London Hospital with interstitial keratitis, definitely congenital, which had started acutely a short time before she came up; it was the first sign of a syphilitic lesion she had ever shown. There was no history of syphilis in the mother, who looked a fine, healthy woman, but attempts to get the mother's blood tested were not successful. The girl reacted well to treatment, but it was a long time to watch a possibly congenital case, namely, until she was twenty-six.

Concerning Dr. Davies' remark about hæmorrhage after arsenic and mercury treatment, she did not break off any treatment during the pregnancy, once she found a reason for starting the anti-syphilitic treatment; the time was too valuable to have any gaps, provided the patient was tolerating the treatment. But, usually, she did not give more than one course of N.A.B., *i.e.*, seven injections; but she gave mercury, and if the patient was in the later stages she was also given iodide of potassium, in increasing doses. A start was made with a drachm of liquor hydrarg. perchlor. and grains v potassium iodide t.d.s., that dose being weekly increased to the limit of tolerance. She had not had time to get a pregnant case up to the maximum number of doses, but she had had some of the women in their postnatal stages, and they had gone up to 20 or 21 drachms of liquor hydrarg. perchlor. a day without showing any signs of overdosage. She did not stop treatment before confinement, and sometimes she had had women going into labour before they had finished their first course of N.A.B., and yet there had been no hæmorrhage. But in one or two cases, where she tried to start postnatal treatment too soon with an arsenical compound, there was definite hæmorrhage, so that it prevented her giving even the mercurial treat-

ment. Therefore she did not like to start N.A.B. treatment soon after confinement.

Dr. MARGARET RORKE agreed that by giving the mother during her pregnancy a moderately small amount of treatment she was sure to produce a living baby ; but would such child remain healthy ? One case which occurred in her clinic made a great impression on her. It was that of a young unmarried mother, who when she came was three months pregnant, and had a severe florid syphilis. Treatment of her was commenced immediately, and before delivery she had full doses of arsenic, much mercury, and bismuth. She had a mal-presentation (brow), which was not diagnosed. She was many days in labour, and the child died. A post-mortem examination was done on the child, and the liver and spleen were found to be full of spirochætes. The infant weighed nearly 9 lb., and if it had lived one would have felt happy about its future. How long would such a child stay alive and healthy and its Wassermann remain negative ?

Treatment with " 914 " she regarded as the ideal, of course, combined with mercury. Now and then a woman was found who would not tolerate arsenic, and in such cases bismuth was substituted. In her clinic the urine was examined before each injection, and if there was an indication of any condition approaching toxæmia there was a cessation for a time and intermediate treatment was adopted. When there seemed to be no more toxæmia the full treatment was resumed. She did not think that before about the year 1920 the treatment given had been adequate. There was need of more treatment and more supervision, and following up children born after treatment for fifteen years if possible, before satisfaction could be felt with one's work.

Dr. F. FOWLER WARD said he had always made a point of treating syphilitic expectant mothers, and he had been impressed with how well they did, and how often they produced healthy children. But what happened to the second and third children ? And how often did one see mothers in the succeeding pregnancies ? The general practitioner had the best chance of seeing these cases. Many women who had syphilis at their first pregnancies brought forth healthy babies subsequently without having had further treatment. Still, if the mother came up again at a subsequent pregnancy she was always given

treatment. And the mother was always given postnatal treatment, whether the Wassermann had become negative or not. With a woman who had syphilis of some years' standing he seldom got a negative Wassermann. One woman had been coming up to him fairly regularly for eight years, yet, despite arsenic and bismuth treatment combined, with mercury and iodides by the mouth, she was still as positive as when she began. He had wondered how far the Wassermann was right as an indication of whether a person was syphilitic or not.

Dr. DENNIS VINRACE said he did not quite see why a pregnant syphilitic woman should be placed in a separate class ; he would have thought she needed treatment on the same lines as an ordinary person suffering from syphilis.

He wished to express his gratitude and his indebtedness to those who had read the opening papers ; it meant that they had devoted a large amount of time to them, and they had elucidated the subject to a very fine degree. All speakers had shown how important it was that these cases should be discovered and efficient treatment instituted. One speaker reminded him of a well-known specialist who in some cases used to give ounce doses of iodide of potassium, and who asserted that these patients did very well upon it ; perhaps the speaker in to-night's discussion would like to give similar ounce doses, in addition to the 21-dram doses of liquor hydrarg. perchlor., with which marked success was claimed. He himself regarded any such practice as highly dangerous.

With regard to a suggested compulsory notification of pregnancy, he doubted whether that would be liked by the ladies. Mercury was a very common and old remedy. At one time statistics taken at St. Bartholomew's Hospital showed that about 80 per cent. of patients were taking mercury in some form or other.

Dr. T. J. WRIGHT (Norwich) wished to ask a question for his own information. One or two people specially engaged in this work whom he knew seemed to be more and more in favour of intramuscular and deep subcutaneous injections in preference to the intravenous ; and he would like to know whether that was the impression in the Society.

Colonel HARRISON further said he was interested to hear Dr. Rorke say that the treatment given before 1920

was totally insufficient. About the end of 1919 he (the speaker) laid down in his clinic a minimal programme of treatment for each of the usual types of syphilis in men and women of average weight and health. Recently he had been able to get at some of the results. The cases analysed so far were sero-negative primary cases, sero-positive primary and early secondary. The minimum he laid down for sero-negative primary cases was two full courses of " 914 " with mercury or bismuth given at the same time—6·3 gm. per course of " 914," and 4 gm. of bismuth or 8 gr. of mercury. For secondary cases the equivalent of three such courses was prescribed. The analysis showed that two full courses were only just sufficient to give satisfactory results as observed over some years of observation in sero-negative primary cases. This, he considered, should be increased to three full courses in a secondary case.

Dr. Ward had raised a doubt of the specificity of the Wassermann reaction in old cases. One certainly saw cases which looked all right clinically, though the W.R. remained strongly positive, but if they were left untreated a proportion of them turned up later with manifestations of syphilis. He considered that a positive Wassermann reaction indicated that active spirochætes were in the body, and he would not trust failure of treatment to reduce it to negative as evidence that the Wassermann meant nothing. He would develop that subject at another time.

In answer to Dr. Wright, he thought deep subcutaneous injections were more effective than intravenous. That was shown during the war. Two hundred cases were treated intravenously, and 200 subcutaneously, all early cases, at the Rochester Row Hospital and No. 39 General, Havre. The subcutaneous cases showed 12 per cent. better results than the others. There was a good reason for it, because the remedy was not exuded so rapidly after subcutaneous injection, and there was thus time for the formation of the spirochætal derivative.

Dr. NABARRO, in reply, thanked members for their kind reception of his effort ; he felt that the trouble had been well worth while.

Colonel Harrison had already answered some of the questions and comments.

He thought intramuscular treatment often gave better

results than other methods, and Americans said the same in regard to children with congenital syphilis. But the intravenous method was less painful; from time to time there was a complaint that when children got home after treatment they had pain at the injection site. And the same was true of mothers, who seemed to object to intramuscular injections. At his clinic there was less difficulty in getting mothers to consent to intravenous injection.

He agreed with Colonel Harrison that a positive Wassermann meant that there were spirochætes present, but whether they were doing harm was another question. A lady of eighty-seven, a patient, had a four-plus Wassermann in her blood, and her only symptom was bronchitis. If syphilis was killing her, it was doing so very leisurely. He had not given her anti-syphilitic treatment.

Colonel Harrison's figures were interesting, and they indicated how difficult the task would be to try to treat all pregnant syphilitic mothers.

He only referred to notification of pregnancy because it had been brought up by writers; he, the speaker, agreed with Dr. Vinrace that it would be a difficult matter to bring it about, as mothers would be diffident about publishing the fact that they had missed two or three periods. But if approached properly they would often admit they were going to have a baby, and in many cases submitted themselves to treatment.

The great difficulty in this work lay in following up the patients. It was not at all easy to get the mothers up, though various agencies were used to trace them. Some came twenty or thirty miles to the clinic, and the difficulty of coming was real; but others raised all kinds of obstacles. And when a woman was fairly well advanced in pregnancy she usually evinced a decided reluctance to appearing in public.

If as good results could be obtained from giving mercury by the mouth as by other means, the former should be preferred.

He thanked all who had participated in the discussion.